

# ADDRESSES

In Support of the Adoption of a Uniform  
Freight Rate on Carriers of Calcium  
Used for Agricultural Purposes With-  
in the State of Ohio, at a Joint  
Meeting of the Senate and  
House of Representatives of  
the State of Ohio

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ADDRESSES BY

HOMER V. BRIGGLE, Canton, Ohio

A. J. EARL, Cleveland, Ohio

GARFIELD J. WILDER, Columbus, Ohio

OHIO C. BARBER, Barberton, Ohio

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HE 2116

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**ADDRESS IN SUPPORT OF THE ADOPTION OF A UNIFORM FREIGHT RATE ON CARRIERS OF CALCIUM USED FOR AGRICULTURAL PURPOSES WITHIN THE STATE OF OHIO: DELIVERED BY HOMER V. BRIGGLE, MARCH 16, 1915, AT A JOINT MEETING OF THE AGRICULTURAL COMMITTEE OF THE SENATE AND HOUSE OF REPRESENTATIVES OF THE STATE OF OHIO**

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Our reasons for appearing before the Joint Agricultural Committee of the Senate and House of Representatives of the State of Ohio, are first:

That the present freight rates on lime, when established, were based on the presumption that lime was a perishable and dangerous article; this presumption originated by reason of the fact, that, in the early railroading days lime was largely shipped in bulk and caustic form, cars were leaky, so that there was a constant loss to the railroads through claims for damaged lime in transit and damage done to cars; that the basis for freight tariffs on lime has not been changed and that the high risk attending the shipments of lime at the time the rates were established, through modern processes of manufacture, have been eliminated; therefore, great inequalities have entered into the present established freight schedules, making it imperative upon the part of the farmer and also the manufacturer to ask the Legislature of the State of Ohio to give this proposition careful consideration and enact a Statute that will establish and govern freight rates on this commodity, which are equitable to the manufacturer, consumer and carrier.

In order that your Honorable Committee may more fully appreciate the importance of the subject under consideration, we present the most trustworthy information regarding our country's production and requirements of food stuffs reported by the United States Bureau of Census, which established beyond question the following facts: During the last decade

the population of contiguous continental United States increased by 31 per cent., or by sixteen million people, while the production of all food grains increased by less than 2 per cent., (from 4439 million bushels to 4513 million bushels) and from June 1, 1900, to April 15, 1910, the number of food producing animals (cattle, sheep and swine) decreased by 10 per cent. from (193 million head to 173 million head).

We fed our increase of population by reducing the standards of living and by decreasing our exportation of food stuffs. Meat and eggs have been much boycotted by many families. The governmental records of two five-year averages, centered on 1900 and 1910, respectively, show that our average annual exportations decreased during the decade from 215 million to 103 million bushels of wheat, from 162 million to 48 million bushels of corn, from 1535 million to 990 million pounds of pork and pork products, from 635 million to 357 million pounds of beef, and from 416 thousand to 190 thousand head of cattle.

Almost coincident with the close of the 19th Century, we reached the end of our free government lands at once suited to agriculture. From 1890 to 1900 the increase of land in farms was 34 per cent., while from 1900 to 1910 the increase was less than 5 per cent. From 1880 to 1910 the area of improved farm land in New England, New York, New Jersey and Pennsylvania decreased by 9,800,000 acres, an aggregate area of agriculturally abandoned land, which exceeds the combined area of Massachusetts, Rhode Island and Connecticut; that even the State of Ohio agriculturally abandoned 16,000 acres of land during the same ten years; all these are established American facts, that any man can verify by turning to the United States Census report, and not mere opinions. They point unmistakably toward future poverty for this country unless we adopt means and methods to increase production of food stuffs or to limit our population.

For the first time in our national history, many million bushels of corn were imported into the United States during the twelve months before the European War began, our exportations of corn having practically ceased, in harmony with the projected indications of the exportation records already cited.

By soil enrichment alone, the crop production of the United States could be doubled, and by no other means could such an achievement be accomplished, this will require, on the normal soil of the great corn and wheat states only, liberal use of such natural materials, as lime, legume crops, farm manure and phosphate rock, and railroads should either will-



ingly, or by governmental direction establish low freights, not exceeding one-half cent per ton-mile for the shipment of calcium carriers; for the future of both commerce and industry depends on soil enrichment and preservation.

The most basic or fundamental principle which should be considered by all classes is that a substance like calcium, which is absolutely essential for the adoption of systems of soil improvement over vast areas of land must be furnished at the lowest possible cost to the owners of poor land if they are ever to adopt such systems, because without improvement, such land yields no profit either to the farmer or to anyone else and the owner of such land is invariably so handicapped financially that if the railroads insist upon making much immediate profit on the business of hauling lime, he will be unable to use it and he will be compelled to continue to wear out his land and sooner or later forced to abandon same because of inability to make ends meet.

Prof. Chas. E. Thorne, Director of Ohio Agricultural Experimental Station, said in an address at the Home Products Exposition in Columbus "That unless acres bring more, the price of living is bound to go higher and that the whole eastern half of the agricultural area of the State of Ohio should be covered with an inch of carbonate of lime." Government statistics show that the State of Ohio has 24,105,708 acres under cultivation. If one-half of this acreage should be supplied with lime in proportion as above advised, it would give to the railroads of the State of Ohio, 2,340,724,511 tons of lime to transport; this, figured at the minimum rate of twenty-five cents per ton, which we ask the Legislature to adopt, would give to the railroads of the State of Ohio, a revenue of \$585,181,127.75. Even if one-twentieth of this amount was used in each five years rotation, it would bring the railroads a revenue at the minimum figure of \$29,258,743.90.

When you consider the great need for this commodity along with the fact that during the year 1914 there was shipped by the manufacturers of Ohio less than 100,000 tons for agricultural purposes; this fact stands out in bold relief; and when you consider that no less an authority than Prof. Chas. E. Thorne has published and circularized over the State of Ohio the following: "When the land begins to need lime it is a waste of time, energy and money to continue cultivating it until this need is supplied, for the economical use of every other fertilizing material, including manure, depends on the lime supply, if that is deficient everything else must fall short of its possible attainment. Not only is lime one of the essential constituents of every living cell, without which



there can be no life, either of plant or animal, but it performs other functions in the soil, the importance of which is scarcely secondary to that of directly feeding the plant."

While the railroads claim that there is no direct profit resulting to them by the establishment of the rate asked, nevertheless, the fact remains that, indirectly, a very large profit will result, for the reason that the farmer's living, first, is withdrawn from the products raised and all the tremendous increase resulting from the proper use of lime would go to the common carrier to be transported to the markets of the country. That increase in the State of Ohio alone on one-half the cultivated acreage would mean 41,546,574.62 bushels of wheat, 123,541,753 bushels of corn, 20,489,851.8 bushels of oats, and 4,770,877 tons of hay, all of which would give to the common carriers of the State of Ohio the tremendous total of 9,310,103 tons of farm produce to be transported, which they are not now getting. On page 20 of Bulletin 279 of the Ohio Agricultural Station of Wooster, we find a table which shows the increase per acre of the different crops in a five year rotation through the use of lime. If the same increase could be shown on one-half of the cultivated acreage in Ohio, the total value of the increase for the five years, would be \$241,418,665.62. This tremendous total is arrived at by figuring corn at 50 cents a bushel, oats at one-third of a dollar, wheat at 90 cents and hay at \$8.00 per ton; figured at prices now obtained this would be practically doubled, without considering the further fact that, in turn, the farmer would reap the benefit from his increased production and would be enabled to improve his home and farm buildings and purchase better machinery and the lime manufacturer would consume a very much larger tonnage of coal in the manufacture of this product, all of which would be carried by the railroads of this State. It occurs to the contenders for this Legislation that the common carriers of Ohio have not wakened up to an appreciation of the tremendous tonnage which would result from the proper use of this commodity and the carrying of same at a reasonable rate.

That the rate asked is reasonable is proved by the fact that several states have already adopted same, viz; Illinois, Virginia and the State of Indiana has materially reduced the rates previously charged on this commodity after a careful consideration by the Rate Commission. The rates in Illinois and Virginia were adopted by mutual agreement of the Rate Commission of these states and representatives of the various Freight Associations and General Freight Agents of the states named.



The rates asked to be established are the same as adopted by the State of Illinois and approved by the General Freight Agents, who compose the membership of the General Freight Association; also the Railroads and Warehouse Commission of the State of Illinois.

After careful consideration we believe the following bill would be fair to all concerned and ask your Committee to recommend same for adoption to the Legislature of the State of Ohio.

H. B. No. 550 81st General Assembly.  
Regular Session.

**A BILL**  
**ENTITLED—LIME-TON BILL**

To classify freight rates upon Carriers of Calcium sold and shipped for Agricultural purposes exclusively, within the State of Ohio.

Section 1. Be it Enacted by the General Assembly of the State of Ohio, that the freight rates for hauling of carriers of calcium by railroads and other common carriers, within the State of Ohio, when said calcium carriers are sold and used for agricultural purposes exclusively, within the State of Ohio, shall be entitled to receive as a maximum and uniform rate therefor and no more, the following amounts, to-wit:

	cents
Up to and including 50 miles.....	25
55 miles and over 50 miles.....	27.5
60 miles and over 55 miles.....	30
65 miles and over 60 miles.....	32.5
70 miles and over 65 miles.....	35
75 miles and over 70 miles.....	37.5
80 miles and over 75 miles.....	40
85 miles and over 80 miles.....	42.5
90 miles and over 85 miles.....	45
95 miles and over 90 miles.....	47.5
100 miles and over 95 miles.....	50
105 miles and over 100 miles.....	52.5
110 miles and over 105 miles.....	55
115 miles and over 110 miles.....	57.5
120 miles and over 115 miles.....	60

125 miles and over 120 miles.....	62.5
130 miles and over 125 miles.....	65
135 miles and over 130 miles.....	67.5
140 miles and over 135 miles.....	70
145 miles and over 140 miles.....	72.5
150 miles and over 145 miles.....	75
155 miles and over 150 miles.....	77.5
160 miles and over 155 miles.....	80
165 miles and over 160 miles.....	82.5
170 miles and over 165 miles.....	85
175 miles and over 170 miles.....	87.5

Section 2. That in order to avail such carrier of the above rates a minimum rate weight of 60,000 pounds per car shall be necessary.

Section 3. That all railroad companies and common carriers of freight are hereby required to transport, within the State of Ohio, all calcium carriers sold exclusively for agricultural purposes in carload lots, at the rates provided herein, and no more, and any railroad company or common carrier refusing to comply with this Act shall forfeit its charter and rights as a common carrier.

No. 2.

March 16, 1915.

## BEFORE AGRICULTURE COMMITTEE OF THE LEGISLATURE

MR. GARFIELD J. WILDER: Mr. Chairman, Members of the Agricultural Committee of the House and Senate.

As an agriculturist and farmer I take great pleasure in presenting to you a short talk upon the subject of "Soil Improvement," which to me is very interesting and a study which when given the proper thought will enable one to better understand the mystery or the secret of nature in her work of reproduction.

In the first place all soil was made from rock and all rock was composed of minerals, and by a process of disintegration and decomposition soils were formed, some rich and some poor, according to the mineral content of the soil in that particular locality. The breaking down of this rock was brought about by various agencies, such as freezing and thawing. The expansion and contraction of the minerals produced crevices in the rock—the water finding its way to



these crevices produced certain acids which in turn aided decomposition, and finally enabled the soil to support life. The process was slow but always going on—for nature was systematic.

And as we study the soils of Ohio we find that nature has provided more generous for some than she has for others. For instance, the Western half of the State is underlayed with Limestone, and the Eastern section is not so favored. We all know that there is a vast difference in the farms that are underlayed with Limestone from those that are not—for there you will find better farms, better livestock, and a better people. Their returns are higher and they can enjoy some of the comforts of life.

All soils are fertile, more or less, in proportion to the amount of minerals they contain. Old authorities used to tell us that there were only three elements necessary for plant food, viz: Nitrogen, Phosphoric Acid and Potash. However, more recent authorities tell us that if any one of a given number of elements of plant food are missing that the plant suffers in one direction or another. All soils need Calcium and Magnesium, for they are the two mineral constituents of the Limestone beds of the world, and where they occur soils are sweet, clovers and Alfalfa will grow, and all Legumes will grow. These legumes have the power of converting the Nitrogen from the air into a form which is available to the plant, and at the same time the soil builds up its Nitrogen content. They make an excellent feed for young stock and are not as exhaustive as some of our other crops.

There is also a great difference in the livestock of a county which does not possess limestone from one that does. Take for instance Geauga County in Northeastern Ohio, which is not underlayed with limestone, and there you will see a vast difference in the animals of a given age as compared to those of Green County, Ohio, which by the way represents one of the best counties in the State of Ohio. They have more pure bred livestock there, better pastures, and a better people. Also the Kentucky Blue Grass country is one which stands out preeminently as a favored section for the famous Kentucky Bred Horses—for the reason that its soils contain limestone. The lime salts go to the grasses, which in turn produce good bone, good muscle, and a better framework. The result of which is an animal of good type and conformation.

We are interested in taking Limestone from one section of the State which is highly favored by its presence and placing it in another section which is not so highly favored. That

section is Northeast and Southeastern Ohio—for here we have the clays. They are cold, wet and soggy and warm up very late in the Spring of the year, therefore, cannot be plowed as early or worked as early. They are sour and the soil organisms cannot grow in such a medium—for the reason that the soils are acid. Lime will correct this acidity and aid growth and development, and, thereby, increase the yield of grain, forage or root crops. All of Ohio needs Lime, but many of the sections are too far away from the railroad and the cost is almost prohibitive.

In the central corn belt States much has been done toward encouraging the farmer to use better seed and to pay more attention to his soil. In States where this work has been going on for the past few years enormous returns are now being secured, but it has all been accomplished by the experiment stations, colleges, railroads and the people working together.

We want no abandoned areas throughout the State of Ohio, for Ohio is one of the best States, agriculturally speaking, and should secure every possible aid from you who represent Agricultural constituents. You are here for a purpose and nothing could be of greater value than legislation which will enable the farmer to secure Lime at a price. This is all within your power and should be done at once. Do for them what other States have done, and you will see the soil respond in a generous manner.

There are approximately 10,666,240 acres in the State of Ohio needing two tons of Lime per acre, or 21,332,480 tons of Lime once in every five years—4,266,496 tons per year. The possibilities of the increased business to railroads is hard to estimate.

The amount of good that this amount of Lime applied to the soils of Ohio will do can be estimated by saying that it will return to the farmer crops valued at \$17,065,984 per year, to say nothing of the after effect which will result in the increased fertility of Ohio farms.

1,758,628	A—Wheat.
49,388	A—Alfalfa.
143,839	A—Rye.
22,756	A—Sugar Beets.
90,043	A—Potatoes.
1,489,090	A—Oats.
2,901,070	A—Corn.

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6,454,814 Acres of Ohio crops not including grass—1914.



Pure Limestone contains three elements:

Calcium (Ca), Carbon C and Oxygen O  
and it is correctly called Calcium Carbonate. The combining weight (wt. of one atom) of Calcium is always 40, that of Carbon 12 and Oxygen is 16.

In Limetstone there are three combining weights of Ox—so Calcium Carbonate is written  $\text{Ca Co}_3$ , meaning that 100 lbs. of pure Limestone contains 40 lbs. Calcium, 12 lbs. Carbonate, and 48 lbs. Oxygen.

When burned 56 lbs. quicklime or Calcium Oxide  
remain Ca O

44 lbs. Carbon Dioxide Given off.

Thus 100 lbs. Limestone make 56 lbs. quicklime.  
56 lbs. quicklime plus 18 lbs. water equals 74 lbs. of slaked lime

Slaked Lime	Quicklime	$\text{Ca H}_2\text{O}_2$
74 lbs.	56 lbs.	Limestone
		100

Uses to

Correct acidity (very desirable and profitable use)

To decompose the soil itself.

There may possibly be conditions under which soils contain large amounts of phosphorus and potassium, which are too slowly available for profitable crop production, and in such cases it might be good farm practice for a time to make use of hydrated lime to hasten the liberation of these mineral elements of plant food.

I am a strong believer in the mineral content of soils and always have been. I am also a believer in the soil organisms for I think that when conditions are favorable for their development we are always assured of a good crop and I think that the farmers should know more about them. And above everything else they should know the part that lime plays toward increasing the organisms in a soil.

Caustic Lime exhausts soils too rapidly—mostly a stimulant.

As to the form of lime to use for the correction of Acidity—the farmer must be governed somewhat by the cost of the material. Limestone is economical wherever it can easily be obtained.

Penn. Experiment in twenty years  
produced per acre:

99 bu. more corn  
116 bu. more oats  
13 bu. more wheat  
5.6 tons more hay.

The experiment stations of Pennsylvania, Maryland, Rhode Island, Illinois and Ohio have all done good work in connection with the upbuilding of soils, and Lime has played its part.

During the past summer I had occasion to study soils and soil conditions in some of our Eastern States, but all of the places that I visited few if any were more important to me than the vast nurseries and greenhouses of Henry A. Dreer of Philadelphia, Pa.—for here they had two hundred and fifty men in their packing and shipping room, and they were removing soil fertility very rapidly, for all of these plants that they shipped were shipped with soil upon the roots in order that they would not dry out.

In the rear of these houses I found different kinds of soil piled up just as you sometimes see iron ore piled up at a steel mill. They had there soils from New Jersey, Pennsylvania and other sections and when they wanted a particular kind of soil they had it right there. I later learned that it had taken a period of thirty years for them to understand just what they needed.

They were located right upon a river and had very good transportation facilities—bringing these soils in by boat. This is what you might call intensive agriculture and it can be applied to other sections—for the farm is a factory, and if it does not possess the raw materials you must ship them in.

Illinois—value of per acre increases per year \$2.64.

44 tests—corn increased 6.9 bu., wheat, 4 bu.; oats, 7.4 bu.; clover 1.52 tons—aid dried.

Quality of hay and grain has been increased. Clover hay on unlimed land half weeds and fowl grass.

Time to apply is whenever you can. All crops grown should be fed.

Permanent system:

Limestone..... for acidity.  
Phosphorus..... for grain and to replace element sold.  
Organic Matter..... for bacteria and to restore nitrogen.



You gentlemen will, no doubt, be called upon tomorrow to support the work which is now being carried on by the Experiment Station at Wooster, and also the College of Agriculture. These two institutions have done a great deal of good for the agriculture of Ohio, and I think that Director Thorne's work at the Station and his results with the use of Lime stand out in a class by themselves as some of the best work in these United States. Now in order to further that work in such a way that the individual farmer may receive a benefit you must make some effort to obtain a lower rate of tariff upon all carriers of Calcium, such as: Quick, Caustic or Burned Lime, Slaked or Hydrated Lime, Carbonate of Lime or Ground Limestone used for agricultural purposes.

Relative Value of Calcium Carriers.

Table showing By Director Thorne.

Actual Calcium found in a ton of each of the different carriers mentioned.

CARRIER	SYMBOL	PERCENTAGE COMPOSITION				Pounds Calcium in One Ton
		Ca	O	H	C	
Quicklime . . . . .	<i>Ca O</i>	71	29			1,420
Hydrated Lime . . .	<i>CaO, H<sub>2</sub>O</i>	54	43.4		2.7	1,080
Carbonate of Lime.	<i>CaO, CO<sub>2</sub></i>	40	48	12		800

“The chief thing to remember about lime is that it is the natural calcium and magnesium carbonate which we find in Limestone that does the work we want done in the soil, whether in feeding the plant or in neutralizing soil acidity, and that whatever be the carrier we may use, whether quicklime, hydrated lime or ground limestone. The reasons for using one in preference to the other is to secure the greatest fineness of division and to save freight and labor in handling.”

If you gentlemen support this bill, which you no doubt will, you will carry out the findings of the Ohio Station to the farmer and he will receive the benefit.

We are not asking for anything but that which will be of benefit to the entire State, for when crop production is increased all business is increased—for all business traces back to the farm which is the one great factory or the mother

of industry, and, without it many other industries would suffer. I think that the bankers of this country and men of other business affairs are beginning to realize what a great opportunity the business of farming presents to the American people—there is no business so large, so intricate, so uncertain of returns—therefore, it needs the aid and help of every individual to further its cause.

History has shown that a nation's wealth is in proportion to the value of the farm crops produced, and that from time immemorial the advancement of the country's civilization has been directly due to the place that she occupies as a producer of food products—for the inhabitants of a country must so adapt themselves that they can live, and we usually find them living near or close by to a large source of food supply.

Transportation has aided and we want it to further aid by reducing to some extent the high tariffs that now prevail—thus making it possible for all to live, and to enjoy the fruits of their labors.

As we are continually taking away we must put back, therefore, rates should be uniform in order that all will have an equal chance to restore to the soil this widely needed element **Calcium**.

I thank you gentlemen.



**ADDRESS GIVEN BY A. J. EARL, ASSISTANT SALES  
MANAGER THE KELLEY ISLAND LIME & TRANS-  
PORTATION COMPANY, CLEVELAND, OHIO,  
BEFORE THE JOINT COMMITTEE OF THE  
HOUSE AND SENATE ON AGRICUL-  
TURE AT COLUMBUS, OHIO, MARCH  
SIXTEENTH, NINETEEN HUN-  
DRED AND FIFTEEN**

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No. 3.

Mr. Chairman and Gentlemen of the Committee:

The information which I desire to present to your committee will be from the standpoint of the rate situation as affecting agricultural lime and limestone, as already explained by my predecessor.

The rate situation as it exists today on these commodities we feel is unjust, and not on the proper basis, for the reason that while Lime itself is supposed to be rated at 83.33 per cent. of the sixth class rate, and agricultural limestone at 60 per cent of the sixth class rate, this is not true in all cases, as in some instances we are paying as high as sixth class rates on lime and too, the railroads do not differentiate between agricultural lime and building lime in the State of Ohio and the basis for agricultural limestone referred to does not apply so far as we know over all railroads within the state, as the Exceptions to Official Classification show that this basis will apply only over the line of the L. S. & M. S. and D. A. V. & P. Railways (these lines now being part of the N. Y. C. R. R.), while for instance, the Pennsylvania Company does not apply this basis on their line and consequently, the shippers of agricultural lime and limestone are unable to determine the proper rates in effect.

I would also call your attention to the wide variance in rates between lime and limestone. If it is granted that the basis referred to will be applied we can show that there is a difference between the two commodities of from ten to thirty-two cents per ton, or to illustrate—the rate on lime from Canton to East Toledo is \$1.48 per ton, to Edison \$1.36 per ton, while the rate on agricultural limestone is \$1.06 per

ton to both points, showing a difference of 12 cents per ton on the lime between the two points mentioned, although the rate on agricultural limestone to both points is the same. I might further call your attention to the rate on lime from Canton to Marion \$1.26 per ton, and to Marietta \$1.68 per ton, while the rate on agricultural limestone is \$1.06 per ton to both points, the differential on the lime being 32 cents per ton.

These two examples I believe you will recognize as showing that there is no proper working basis for any of these rates at the present time, and too, the railroads in a good many cases do not publish rates from various shipping points on their lines to points the manufacturer expects to ship to, and as he has no tariff covering these rates he is unable to determine the freight rate unless he takes up with his railroad freight agent, who frequently has to wire his division office for this information. The customer in all cases desires to know the freight rate, thus delaying the information due him for a week or ten days, and consequently he is extremely liable to form the opinion that his business is not desired. You no doubt are aware that the prospective customer desires in all cases to know what his lime or stone will cost him delivered to his nearest receiving point, and therefore, if the rate is not given him, and is not correct when it is quoted, it is readily to be seen that he is as much put out in the matter as the shipper.

I would also like to call your attention to a few rates from various shipping points in the State of Ohio on agricultural limestone, which show a decided difference in opinion as to what is a fair and just rate on the rates now established. For instance, the rate from Marblehead to Ashtabula, a distance of one hundred and twenty-nine miles, is \$1.00 per ton while under the basis as placed in effect by the Indiana Commission the proper rate to apply would be 90 cents per ton, while under the proposed basis the rate would be 60 cents per ton, the latter rate being based on one half cent per ton per mile, or the same as in effect in the State of Illinois today, and we might add that this same low basis is effective in the State of Virginia at the present time. The present rate from Lowellville to Youngstown, a distance of eight miles, is 42 cents per ton and according to the Indiana order the rate would be 35 cents per ton, while on the basis which we request placed in effect the rate would be 25 cents per ton.

We firmly believe that if this bill as presented becomes a law, it will mean increased tonnage to the railroads, larger



crops for the farmer and naturally result in a larger business to the Implement Manufacturer as well as other Manufacturers of farm material, and consequently the railroads will receive tonnage of a higher class than on the agricultural lime and limestone, but these commodities will also move in larger quantities than ever before.

We realize that it is only human in you gentlemen to believe that we are seeking this reduction in freight rates from a selfish motive and at first glance it would seem that such was the case, but we believe that upon thinking the matter over at greater length you will agree with us that the increased demand for these commodities, and consequently greater crops as well as the tendency of the farmer thereby to purchase more and better implements to carry on his work, that we are only a small factor in the entire matter.

This question of increased production, will of course, naturally benefit every person in the State of Ohio, and as my predecessor has mentioned in his remarks, will also effect the high cost of living, and thus tend to lower the prices of the necessities of life, this being a matter in which we are all vitally interested.

The firm that I am connected with, The Kelley Island Lime and Transport Co., have at their Marblehead plant alone, enough stone to produce agricultural lime and limestone for three hundred years, based on the present rate of consumption, this fact being determined by experts, but owing to the inequality and unfairness of the present rates, this immense deposit of stone is practically dormant for agricultural uses, and in this connection I might add that these large deposits are found in various sections of the state, and we are not alone in showing what it represents, as a number of manufacturers are of course interested to a greater or less extent, and feel as we do that if this stone was utilized as scientists agree it should and could be used in this state, it would at once be made more active, and the resulting wealth in crop production would as I referred to before, benefit every inhabitant of the state.

I would like to read you a quotation from an order of the Railroad Commission of Indiana, published April 25, 1913, in connection with the lower rates in that state. Dr. Breckenridge, President of the Agricultural College suggested during the hearing "that it would pay the railroad companies to transport these commodities free during one year, so as to advertise it and bring it into general use." While we do not believe it would be entirely fair to the railroads to even ask or suggest that they carry agricultural lime and lime-

stone free of charge, we do feel that the resulting benefits to the carriers would more than offset the reduction requested in this bill, if the rates we are asking were put into effect.

It is my understanding that the railroad carriers have advised at a previous hearing on the matter that they are willing to establish 60 per cent. of the sixth class rate on the commodities referred to, covering the territory in which this basis is not already effective. However, this basis is only a fraction lower than the rate on commercial Fertilizers of 66 2-3 per cent. of the sixth class rate made many years ago by the Indiana Commission, yet commercial Fertilizers cost from \$20.00 to \$40.00 per ton, while ground limestone costs from \$1.00 to \$1.50 per ton, and agricultural lime from \$4.00 to \$5.00 per ton, and we therefore feel that this is another reason why the basis requested should be established.

We believe you will recognize that if the State of Illinois can make effective a rate of  $\frac{1}{2}$  cent per ton per mile and which was agreed to by all the railroad carriers in the State of Illinois, that the State of Ohio, which is recognized as one of the greatest Agricultural states in the Union today, can also establish this basis with ultimately better results than the State of Illinois, for the reason that its transportation facilities are much greater, and while the crop production of Ohio is not as great at the present time, as for instance the corn belt of Illinois, due to the impoverished condition of some of the land, it has been determined by the highest authorities that this condition can and will be overcome for the reasons already given.

Another matter that must not be lost sight of, is that the Interstate Commerce Commission in their recent decision in the five per cent. advance rate case, called attention to the fact that the rates in Central Freight Association Territory (in which the State of Ohio is located) were lower than in any other part of the United States, and that the inequalities in the rates should be adjusted. This is true, but you must also not lose sight of the fact that the cost of operation of railroads in this territory is lower than in any other part of the country, their being no mountain ranges, no large water-ways to cross, and the country is generally level, consequently the railroads haul longer and heavier trains, thereby decreasing operating expenses. At the present time the railroad carriers in this territory are expecting to place in effect, in line with the decision of the Interstate Commerce Commission, the new basis, and you know as well



as we do, that this readjustment of rates will mean an increase over and above the five per cent. increase placed in effect October 26, 1914, as there is no tendency on the part of the railroads to lower any rates at this time.

It therefore, seems to us that if other states can maintain a rate of  $\frac{1}{2}$  cent per ton per mile, that the State of Ohio can do likewise with great benefit to itself, and while it might be claimed that the resulting benefits from the increased use of agricultural lime or stone would not show for some time, we believe you will recognize the fact that it is a start in the right direction, and surely the results to be obtained are worth the greatest efforts on the part of both the manufacturer and the consumer, and we also believe we can show in the near future that the results will go beyond our highest expectations, and feel certain that this action will be heartily endorsed by every consumer of this product.

I thank you, gentlemen.

No. 4.

March 16, 1915.

## BEFORE AGRICULTURAL COMMITTEE OF THE LEGISLATURE.

MR. BARBER: Members of the Committee of the Senate and House and Mr. Chairman:

After listening to these carefully prepared papers, scientific and statistical, I feel that I really ought not say anything. However, it may be of some interest to you for me to tell you why I am a farmer. Some years ago I thought I would practically retire from business. I had worked for fifty years—consecutive years—in a fair sized business, persistently and consistently, and I thought I had worked long enough, and I would retire with a view of taking up farming as a pastime, and I did so because of my observation of farming, largely abroad. For twenty-five years I had traveled abroad each year over the different countries of Europe many thousands of miles, and had been an observer of the farming operations over there. I had done that by automobile, carriage and railroad. I had a very good opportunity to observe, although I had heard a great deal before visiting Europe, of our virgin soil and how we could raise more crops than the people of the world could consume, and

all that sort of thing. I found in my travels that this was largely buncombe, and that there wasn't a nation in Europe that didn't raise at least twice as much per acre of all the cereals and grains that are cultivated in the different localities, as we are raising here, some of them twice and some three times as much. I have taken particular pains in counting the kernels of wheat in the head of that raised on my own farm, and when I would go abroad I would count those, and I found we were clear behind—100 per cent. at least, in all cases where I counted. Well, it made me feel a little ambitious, and the first thing I knew I was in business again.

Of the 3,500 acres of land I have, I am cultivating a big portion, and I think I am doing more business today than I ever did in my life, because of the interest and the necessity, it seems to me, for increased and larger crops and better results from the farm and the education of the farmer.

Of all the wheat producing countries of the world, the United States stands third from the lowest—Russia first, or last, Argentine next and then the United States. They stand in that relation to each other as to the production of wheat, and our increase in population will be much more rapid than in all of those older countries. Our soil is running down and it needs everything that is useful to the soil to be placed back of the hundred years that we have been despoiling it, and if we don't do it we will be impoverished.

I am going to tell you a little something of Germany. I have traveled over there quite largely for twenty-five years, and I watched the German progress in the Arts, Sciences and in Agriculture. At the end of the Franco-German war, Germany occupied 45 per cent. of her population in agriculture, and she had 40,000,000 of people. In 1912—forty years later—Germany had 26 per cent. of her population engaged in agriculture instead of 45 per cent. and she had enough, she had produced enough to almost make her self-sustaining, and her inhabitants had increased 50 per cent. Now that was done by intense cultivation and the education of the German people to improve their crops and to cultivate their soil in such a way as I say would bring forth results. The German government, as I have observed it from time to time, is one of the greatest, and its people the greatest in the world, and I believe had it continued along the same lines it followed for forty years in the paths of peace, industry and improvement, it would perforce have conquered the whole world by its progress, without killing a soul.

It seems to me, however, that when a nation prospers



very much, as perhaps we have, we get bigoted; we step aside from the scientific paths and the proper paths of life and get into politics and such things as destroy us and set us back. I don't believe our educational system is altogether right. I know one institution, that in which the governor of Ohio was educated, that has turned out more politicians than any other college in Ohio, and it is a little bit of a place up here at Ada. I was talking about it to a judge who was educated there, and he seemed to be very proud of that little college because it turned out more public men, more members of Congress, more lawyers and speakers and debaters than all the other colleges in Ohio. That is funny, but it is so. Now, they may have done a good thing in producing our Governor. I think he is a fine man, and I think there are a lot of good men who have come from that college. We have half a dozen lawyers in our town who were educated at Ada, but if we were all made up of debaters and followed that as a practice, we wouldn't raise much wheat or many potatoes or a great many hogs or anything of that sort. Some of us have got to do some real solid work. We have to farm, till the soil and work in the great laboratory of nature to bring from the soil those things which we so much need and which will respond to us amply with compound interest.

When I first commenced to farm I knew nothing particularly about it only what I saw from observation. I made up my mind I would call to my place some of the scientific men in Agriculture, and I got them from Washington, from Iowa, from Michigan, from Indiana, from Pennsylvania, and one or two other states. I sent an invitation to them to come to my farm and I would entertain them; they might be my guests from the time they started until they got home. I selected those people who had had experience and could give me some help, I thought. I got them down there and took them around the farm and went into detail with a number of them, and I got the consensus of opinion as to what I ought to do on that farm, from all those educated agriculturists, and I think it did me a great deal of good. The uniform conclusion was, besides some other fundamental things, that the soil was sour; that the lime had been entirely exhausted from the soil, and I must lime it. I remember Joseph E. Wing, the alfalfa expert was there, and I took to him because I was accumulating a herd of cattle, and alfalfa was the proper feed for cattle, and I got him to one side—I kept him a day longer than the other fellows. I wanted to raise alfalfa, and he told me what to do and I took his prescription. He

said: "The fundamental thing in raising alfalfa, and in farming too, is drainage. You have got to have a proper drainage for your land before you can expect to grow alfalfa, and it is good for all crops." And he told me to put down 4-inch tile, three feet in the ground, and put them 32 feet apart, he thought that would be proper drainage. Then he told me to put all the manure I had on the farm with ten tons of ground limestone to the acre. Well, that was a pretty big prescription for a green farmer. It amounted in my case to about \$65.00 an acre, but I took the prescription, and I got a good crop of alfalfa. I think this is the sixth year on that particular piece I refer to that I have had a good crop, and I expect a good one this year. The third year after I had done this work, he wrote me from his home and said: "I have lost my alfalfa. It has been the worst winter I ever saw on alfalfa, and I presume you have lost yours. If you wish I will come up and consult with you." I wrote back and sympathized with him for the loss of his alfalfa, and I said in reply: "I think had you taken the same prescription you gave me, you would be reaping a good crop this year, for mine is in perfect order." Now he went to excess, I am sure. I think five tons of lime at first, and two tons per acre per year thereafter would have been just as good. In fact during the summer I went with my superintendent to see Professor Thorne, and he told me that two tons was about the proper amount to put on, but to put it on yearly up until you have your land thoroughly restored. We discussed hydrated lime at the same time. Now they conduct these experiments in a very scientific way. They have a plot of ground marked off and follow a line, with fertilizer on one, no fertilizer on one, and partial fertilizer on others, and keep that up year in and year out until they have discovered the true merit of the fertilizers they use, and he told me at that time that they had been seriously contemplating sending out a circular recommending a large tonnage of lime at one time. I asked him the difference between good carbonate of lime and hydrated lime, and he said that if it was so arranged by nature and practice and the same amount expended on two acres of land, one of carbonate and one of hydrate (the hydrate costing perhaps three times as much as the carbonate) the result as to the fertility of the soil would be the same in five years. So, if that be the case, it seems to me that the farmer ought to take the carbonate, although Mr. Briggles, with whom I am associated, doesn't want me to say so. We make both.



Well, after my experience in liming and in the cultivation of my soil, I have been so delighted that I am now taking up in a larger way the production of the hydrated lime, caustic lime and ground carbonate lime. I am doing this, not only for my own benefit, and I have put on in all about 1,500 tons, but because I believe in it. And because I believe in it, and know what the State of Ohio and the United States need, I believe I am doing a good governmental service in recommending the abundant use of lime, and when a man feels that way, he is entitled to a criticism on the people who are not doing right in attempting to increase the rate for the transportation of so useful an article, and it is a fair proposition that they should get down and help build up the soil they have robbed so much.

There are a great many things I want to talk about, but I will have to quit soon. The intense cultivation is a very interesting subject. I have vegetable green houses covering seven acres, where I raise tomatoes, cucumbers, radishes and lettuce—and the cultivation of that is so expensive that you will be surprised when I tell you how much it costs. It costs 12 cents a square foot to maintain, cultivate, and harvest three crops of that seven acres. Twelve cents a foot amounts to \$5,000 an acre. Yet the profit is greater than in cultivating the coarser products, grain, alfalfa, etc. So if we as a nation follow not only intense cultivation, but perfect fertilization of the soil, our results will be beneficial and profitable.

On my farm I am raising from 500 to 600 acres of corn, 300 acres of wheat, 300 acres of oats, a crop of 200 acres of alfalfa, and perhaps 300 or 400 acres of grass—I don't know how much, but approximately those are the figures, and all this large acreage of crops I feed on the farm. I put it through the distillery, which is the cow, the pig, the horse, the chicken, the duck, the squab, and some other animals which I forget, and they are my best market, and I sell the concentrates—the butter, the milk, the eggs, the pork, the sausage, the poultry, the squabs, the ducks. I raise chickens, about 25,000; squabs, about 25,000; and ducks, I expect to raise from 50,000 to 100,000 this year. In a way I haven't lost anything by not selling my hay, corn or any of those things, for the concentrates are so much lighter; I can take them to market so much easier, and the cattle you will agree pay, if you will come and see my herd. I have 500 head of the finest Guernseys in this country, and I have the best cow in the world—the record cow—and we are getting good rich milk and butter.

I think that sort of cultivation should be carried on. It takes a good deal to carry it on, and I have not reached the point where I have made so much profit out of it myself. The gross sales, as reported by my auditor for the year 1914, were \$309,000, and yet I am not making any money, but I am building up a farm that will make money, and will pay back I believe richly.

Now, that is a pretty big experiment, conducted as scientifically as I know how, with as good men as I can get. I think there are better in the world, but I have as good as I can get, and I don't have any reference to my superintendent, who is here.

I have the finest fruit in the world there. Besides the seven acres, I have five acres where I raise peaches, plums, grapes and nectarines, for which I get a pretty reasonable price. Sometimes we sell the peaches for 25 cents apiece, and they are worth it, and the grapes for 50 or 60 cents a pound, and they are worth it. There is growing up in this country a class of people that can afford these luxuries, which will increase in number and value, and increase much more rapidly if the soil is properly built up for that purpose.

And therefore I beseech you, as legislators of this country, to give this to the farmers. I don't care for myself. I can get along with the other fellows, but I beseech you to give to the farmers what is requested in this bill.

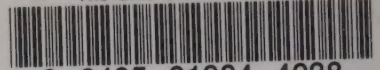
I thank you.







The Ohio State University



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ADDRESSES IN SUPPORT OF THE ADOPTION OF

THE OHIO STATE UNIVERSITY BOOK DEPOSITORY



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